



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

**D5629-041**  
**Job Sheet 188277**



Part No: D5629-041

Part Name: End Cap Assembly



Part Weight: 0 lbs

Job Created: 1/7/19

Due Date: 1/18/19

Type: SOLD

Job Qty: 1 pcs

*HAAS 10 pcs*

*Due  
21  
9-00*

Status: New

Priority: Medium

Job Tracking No:

Created By: Marie Lajeunesse

Description:

Note: D5629 REV.A IPP REV:A 18.04.10 NEW ISSUE DD VERF:DP IPP REV:B 18/08/03 AS PER DWG REV.B JFS  
VERF BY:DP

Ship Via:

### Bill of Materials

### Job Routing

| Op<br>No | Operation   | Qty      | Start Date | Due<br>Date | Standard     |            | Workcenter/Supplier   |  | Lead<br>Time | Sign-off |
|----------|-------------|----------|------------|-------------|--------------|------------|-----------------------|--|--------------|----------|
|          |             |          |            |             | Setup<br>Hrs | Run<br>Hrs | Workcenter / Supplier |  |              |          |
| 105      | HAAS 5 Axis | 1<br>pcs |            | 1/18/19     | 0.00         | 1.33       | HAAS - 5              |  |              | 19-05-06 |
| 110      | QC 2        | 1<br>pcs |            | 1/18/19     | 0.00         | 0.00       | QC 2 - 1              |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 12             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 14             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 17             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 19             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 2              |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 20             |  |              | 19-05-06 |
|          |             |          |            |             |              |            | QC 2 - 22             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 23             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 25             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 32             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 33             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 35             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 38             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 39             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 4              |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 40             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 44             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 45             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 48             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 49             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 50             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 51             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 52             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 54             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 56             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 57             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 62             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 63             |  |              |          |
|          |             |          |            |             |              |            | QC 2 - 8              |  |              |          |



Container No: S178458



Part: D5629 - 041

Job No: 188277

Serial No/Batch: S178458

Revision: B

Inspector:

Exp Date:

Instructions: Various STC's

Dart Aerospace Ltd.  
1270 Aberdeen Street  
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CANADA  
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Email: sales@dartaero.com  
www.dartaerospace.com

Date: 05/06/19



Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                        |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------|--|
| Job: _____<br><br>Part No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/> | <b>DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/> </div> <div>           Eng. (Non-AW) <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Water Jet <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Quality <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                      |  |                        |  |
| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sequence #: _____                                                                                                                 | QTY Affected : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | MRB (QSI042) _____     |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | Completed By           |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Lead hand / Supervisor |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | QC / QA Coordinator    |  |
| <b>Root Cause</b><br><br><div style="display: flex;"> <div style="flex: 1;">           Operator <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Presservation <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Human Factors <input type="checkbox"/> </div> <div style="flex: 1;"> <input type="checkbox"/> Pressure/Forced<br/> <input type="checkbox"/> Bending<br/> <input type="checkbox"/> Crushing<br/> <input type="checkbox"/> Cracks<br/> <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist<br/> <input type="checkbox"/> Marks/Chatter<br/> <input type="checkbox"/> Mislabeled         </div> </div> |                                                                                                                                   | <b>FAULT CATEGORY</b><br><br><div style="display: flex;"> <div style="flex: 1;"> <input type="checkbox"/> Contamination<br/> <input type="checkbox"/> Misaligned/off center<br/> <input type="checkbox"/> BOM/Route<br/> <input type="checkbox"/> Broken/Damage/Defect<br/> <input type="checkbox"/> Incomplete/Unclear Instructions<br/> <input type="checkbox"/> Drill Holes<br/> <input type="checkbox"/> Fit/Function         </div> <div style="flex: 1;"> <input type="checkbox"/> Power Loss/Surge<br/> <input type="checkbox"/> Folio/Program<br/> <input type="checkbox"/> Grain Direction<br/> <input type="checkbox"/> Weld<br/> <input type="checkbox"/> Wrong Stock Pulled<br/> <input type="checkbox"/> Out of Sequence<br/> <input type="checkbox"/> Off-set/Set-up         </div> <div style="flex: 1;"> <input type="checkbox"/> Positioned Wrong<br/> <input type="checkbox"/> Outside Tolerance<br/> <input type="checkbox"/> Drawing<br/> <input type="checkbox"/> Finish<br/> <input type="checkbox"/> Part Lost/Missing<br/> <input type="checkbox"/> Misread         </div> </div> |  |                        |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                        |  |

|                                   |          |         |           |                           |  |
|-----------------------------------|----------|---------|-----------|---------------------------|--|
| 112 QC 8                          | 1<br>pcs | 1/18/19 | 0.00 0.00 | QC 8 - 12                 |  |
|                                   |          |         |           | QC 8 - 14                 |  |
|                                   |          |         |           | QC 8 - 17                 |  |
|                                   |          |         |           | QC 8 - 20                 |  |
|                                   |          |         |           | QC 8 - 25                 |  |
|                                   |          |         |           | QC 8 - 3                  |  |
|                                   |          |         |           | QC 8 - 32                 |  |
|                                   |          |         |           | QC 8 - 33                 |  |
|                                   |          |         |           | QC 8 - 35                 |  |
|                                   |          |         |           | QC 8 - 38                 |  |
|                                   |          |         |           | QC 8 - 39                 |  |
|                                   |          |         |           | QC 8 - 4                  |  |
|                                   |          |         |           | QC 8 - 44                 |  |
|                                   |          |         |           | QC 8 - 45                 |  |
|                                   |          |         |           | QC 8 - 49                 |  |
|                                   |          |         |           | QC 8 - 58                 |  |
|                                   |          |         |           | QC 8 - 8                  |  |
|                                   |          |         |           | QC 8 - 9                  |  |
|                                   |          |         |           | QC 8 - 68                 |  |
|                                   |          |         |           | QC 8 - 67                 |  |
|                                   |          |         |           | QC 8 - 1 (A)              |  |
| 114 Handfinish - 1-1 Chemical-B4B | 1<br>pcs | 1/18/19 | 0.00 0.00 | Handfinish - 1 - 1 - B4B  |  |
|                                   |          |         |           | Handfinish - 1 - 2 - B4B  |  |
|                                   |          |         |           | Handfinish - 1 - 3 - B4B  |  |
|                                   |          |         |           | Handfinish - 1 - 4 - B4B  |  |
|                                   |          |         |           | Handfinish - 1 - 5 - B4B  |  |
|                                   |          |         |           | Handfinish - 1 - 6 - B4B  |  |
|                                   |          |         |           | Handfinish - 1 - 7 - B4B  |  |
|                                   |          |         |           | Handfinish - 1 - 8 - B4B  |  |
|                                   |          |         |           | Handfinish - 1 - 9 - B4B  |  |
|                                   |          |         |           | Handfinish - 1 - 10 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 11 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 12 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 13 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 14 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 15 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 16 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 17 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 18 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 19 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 20 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 21 - B4B |  |
|                                   |          |         |           | Handfinish - 1 - 22 - B4B |  |
| 116 QC 7                          | 1<br>pcs | 1/18/19 | 0.00 0.00 | QC 7 - 10                 |  |
|                                   |          |         |           | QC 7 - 13                 |  |
|                                   |          |         |           | QC 7 - 14                 |  |
|                                   |          |         |           | QC 7 - 15                 |  |
|                                   |          |         |           | QC 7 - 17                 |  |
|                                   |          |         |           | QC 7 - 18                 |  |

19/05/08



Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------|--|
| Job: _____<br><br>Part No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/> | <b>DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/> </div> <div>           Eng. (Non-AW) <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Water Jet <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Quality <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                        |  |
| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Sequence #: _____                                                                                                                 | QTY Affected : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | MRB (QSI042)           |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                   | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | Completed By           |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Lead hand / Supervisor |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | QC / QA Coordinator    |  |
| <b>Root Cause</b><br><br><div style="display: flex;"> <div style="flex: 1;">           Operator <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Presservation <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Human Factors <input type="checkbox"/> </div> <div style="flex: 1;">           Pressure/Forced <input type="checkbox"/><br/>           Bending <input type="checkbox"/><br/>           Crushing <input type="checkbox"/><br/>           Cracks <input type="checkbox"/><br/>           Crimp/Kink/Ripple/Wave/Twist <input type="checkbox"/><br/>           Marks/Chatter <input type="checkbox"/><br/>           Mislabeled <input type="checkbox"/> </div> </div> |                                                                                                                                   | <b>FAULT CATEGORY</b><br><br><div style="display: flex;"> <div style="flex: 1;">           Contamination <input type="checkbox"/><br/>           Misaligned/off center <input type="checkbox"/><br/>           BOM/Route <input type="checkbox"/><br/>           Broken/Damage/Defect <input type="checkbox"/><br/>           Incomplete/Unclear Instructions <input type="checkbox"/><br/>           Drill Holes <input type="checkbox"/><br/>           Fit/Function <input type="checkbox"/> </div> <div style="flex: 1;">           Power Loss/Surge <input type="checkbox"/><br/>           Folio/Program <input type="checkbox"/><br/>           Grain Direction <input type="checkbox"/><br/>           Weld <input type="checkbox"/><br/>           Wrong Stock Pulled <input type="checkbox"/><br/>           Out of Sequence <input type="checkbox"/><br/>           Off-set/Set-up <input type="checkbox"/> </div> <div style="flex: 1;">           Positioned Wrong <input type="checkbox"/><br/>           Outside Tolerance <input type="checkbox"/><br/>           Drawing <input type="checkbox"/><br/>           Finish <input type="checkbox"/><br/>           Part Lost/Missing <input type="checkbox"/><br/>           Misread <input type="checkbox"/> </div> </div> |  |                        |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                        |  |

|                                 |          |         |           |                        |             |
|---------------------------------|----------|---------|-----------|------------------------|-------------|
|                                 |          |         |           | QC 7 - 19              |             |
|                                 |          |         |           | QC 7 - 2               |             |
|                                 |          |         |           | QC 7 - 28              |             |
|                                 |          |         |           | QC 7 - 3               | 68-6        |
|                                 |          |         |           | QC 7 - 30              | OC          |
|                                 |          |         |           | QC 7 - 34              | SVC         |
|                                 |          |         |           | QC 7 - 36              |             |
|                                 |          |         |           | QC 7 - 37              |             |
|                                 |          |         |           | QC 7 - 38              |             |
|                                 |          |         |           | QC 7 - 41              |             |
|                                 |          |         |           | QC 7 - 47              |             |
|                                 |          |         |           | QC 7 - 48              |             |
|                                 |          |         |           | QC 7 - 51              |             |
|                                 |          |         |           | QC 7 - 58              |             |
|                                 |          |         |           | QC 7 - 59              |             |
|                                 |          |         |           | QC 7 - 6               |             |
|                                 |          |         |           | QC 7 - 60              |             |
|                                 |          |         |           | QC 7 - 9               |             |
|                                 |          |         |           | QC 7 - 68              |             |
|                                 |          |         |           | QC 7 - 50              |             |
|                                 |          |         |           | QC 7 - 67              |             |
| 118 Small Fab - 2 - B4B         | 1<br>pcs | 1/18/19 | 0.00 0.10 | Small Fab - 1 - B4B    |             |
|                                 |          |         |           | Small Fab - 2 - B4B    |             |
|                                 |          |         |           | Small Fab - 3 - B4B    |             |
|                                 |          |         |           | Small Fab - 4 - B4B    | MAY 09 2019 |
|                                 |          |         |           | Small Fab - 5 - B4B    |             |
|                                 |          |         |           | Small Fab - 6 - B4B    |             |
|                                 |          |         |           | Small Fab - 7 - B4B    |             |
| 120 QC 5                        | 1<br>pcs | 1/18/19 | 0.00 0.00 | QC 5 - 10              |             |
|                                 |          |         |           | QC 5 - 12              |             |
|                                 |          |         |           | QC 5 - 17              |             |
|                                 |          |         |           | QC 5 - 18              |             |
|                                 |          |         |           | QC 5 - 19              |             |
|                                 |          |         |           | QC 5 - 22              |             |
|                                 |          |         |           | QC 5 - 24              |             |
|                                 |          |         |           | QC 5 - 3               |             |
|                                 |          |         |           | QC 5 - 38              |             |
|                                 |          |         |           | QC 5 - 42              |             |
|                                 |          |         |           | QC 5 - 43              |             |
|                                 |          |         |           | QC 5 - 49              |             |
|                                 |          |         |           | QC 5 - 51              |             |
|                                 |          |         |           | QC 5 - 58              |             |
|                                 |          |         |           | QC 5 - 68              |             |
|                                 |          |         |           | QC 5 - 9               |             |
|                                 |          |         |           | QC 5 - 50              |             |
|                                 |          |         |           | QC 5 - 30              |             |
|                                 |          |         |           |                        | DAS 30 9-89 |
|                                 |          |         |           |                        | MAY 09 2019 |
| 130 Packaging 3-1 - Stock - B4B | 1<br>pcs | 1/18/19 | 0.00 0.00 | Packaging 3 - 1 - B4B  |             |
|                                 |          |         |           | Packaging 3 - 2 - B4B  |             |
|                                 |          |         |           | Packaging 3 - 3 - B4B  |             |
|                                 |          |         |           | Packaging 3 - 4 - B4B  |             |
|                                 |          |         |           | Packaging 3 - 5 - B4B  | DAS 20 9-89 |
|                                 |          |         |           | Packaging 3 - 6 - B4B  |             |
|                                 |          |         |           | Packaging 3 - 7 - B4B  |             |
|                                 |          |         |           | Packaging 3 - 8 - B4B  |             |
|                                 |          |         |           | Packaging 3 - 9 - B4B  |             |
|                                 |          |         |           | Packaging 3 - 10 - B4B |             |
|                                 |          |         |           | Packaging 3 - 11 - B4B |             |
|                                 |          |         |           | Packaging 3 - 12 - B4B |             |
|                                 |          |         |           | Packaging 3 - 13 - B4B |             |
|                                 |          |         |           | Packaging 3 - 14 - B4B |             |



Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------|--|
| Job: _____<br><br>Part No. _____                                                                                                                                                                                                                                                                                                                                                         | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/> | <b>DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/> </div> <div>           Eng. (Non-AW) <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Water Jet <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Quality <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |              |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                   | Sequence #:                                                                                                                       | QTY Affected :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        | MRB (QSI042) |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Disposition            |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Completed By           |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Lead hand / Supervisor |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | QC / QA Coordinator    |              |  |
| <b>Root Cause</b><br><br>Operator <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Presservation <input type="checkbox"/><br>Material <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Human Factors <input type="checkbox"/> |                                                                                                                                   | <b>FAULT CATEGORY</b><br><br><div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Pressure/Forced<br/> <input type="checkbox"/> Bending<br/> <input type="checkbox"/> Crushing<br/> <input type="checkbox"/> Cracks<br/> <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist<br/> <input type="checkbox"/> Marks/Chatter<br/> <input type="checkbox"/> Mislabeled         </div> <div> <input type="checkbox"/> Contamination<br/> <input type="checkbox"/> Misaligned/off center<br/> <input type="checkbox"/> BOM/Route<br/> <input type="checkbox"/> Broken/Damage/Defect<br/> <input type="checkbox"/> Incomplete/Unclear Instructions<br/> <input type="checkbox"/> Drill Holes<br/> <input type="checkbox"/> Fit/Function         </div> <div> <input type="checkbox"/> Power Loss/Surge<br/> <input type="checkbox"/> Folio/Program<br/> <input type="checkbox"/> Grain Direction<br/> <input type="checkbox"/> Weld<br/> <input type="checkbox"/> Wrong Stock Pulled<br/> <input type="checkbox"/> Out of Sequence<br/> <input type="checkbox"/> Off-set/Set-up         </div> <div> <input type="checkbox"/> Positioned Wrong<br/> <input type="checkbox"/> Outside Tolerance<br/> <input type="checkbox"/> Drawing<br/> <input type="checkbox"/> Finish<br/> <input type="checkbox"/> Part Lost/Missing<br/> <input type="checkbox"/> Misread         </div> </div> |                        |              |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |              |  |



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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 16 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 17 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 18 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 19 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 20 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 21 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 22 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 23 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 24 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 25 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 26 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 27 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 28 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 29 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 30 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 31 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 32 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 33 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 34 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 35 - B4B |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                   |                         | Packaging 3 - 36 - B4B |                     |
| 140 QC 21 - SA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1                       | 1/18/19           | 0.00 0.00               | QC 21 - SA - 21        | DAS 21              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | pcs                     |                   |                         | QC 21 - SA - 70        | 3-39                |
| Part Op 105 - (HAAS CNC vertical machine #5), -Machine as per folio FC023 -Deburr<br>Descriptions: 110 - (QC2- Inspect parts off machine FAI/FAIB)<br>112 - (QC8- Inspect parts - second check)<br>114 - (Chemical Conversion Coat per QSI005 4.1)<br>116 - (QC7-Inspect Chemical Conversion Coat)<br>118 - INSTALL NUT PLATE AS PER DWG<br>120 - (QC5- Inspect part completeness to step on W/O)<br>130 - (Identify as per dwg & Stock Location: _____)<br>140 - (QC21- Final Inspection - Work Order Release) |                         |                   |                         |                        |                     |
| <b>Job BOM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |                   |                         |                        |                     |
| <b>Part / Item</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Component Name</b>   | <b>Quantity</b>   | <b>Operation</b>        | <b>Container</b>       |                     |
| M6061T6B2.500X03.500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 6061-T6 Bar 2.50 X 3.50 | .2500 ft (.25 ea) | 105-HAAS 5 Axis         | 5138932                | 2.583               |
| CCR264SS-3-04                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Nutplate Rivet          | 8 Ea (8 ea)       | 118-Small Fab - 2 - B4B | 3157070                |                     |
| MS21076-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Anchor Nut              | 4 Ea (4 ea)       | 118-Small Fab - 2 - B4B | 157171346122           | 25x111345<br>02-301 |
| <b>Job Allocations</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                         |                   |                         |                        |                     |
| <b>Operation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Component Part</b>   | <b>Required</b>   | <b>Inventory</b>        | <b>Allocated</b>       |                     |
| 105-HAAS 5 Axis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | M6061T6B2.500X03.500    | 0                 | 6                       | 0                      |                     |
| 118-Small Fab - 2 - B4B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | CCR264SS-3-04           | 8                 | 209                     | 0                      |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | MS21076-3               | 4                 | 58                      | 0                      |                     |
| <b>Part Specifications</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         |                   |                         |                        |                     |
| Specifications could not be found.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                         |                   |                         |                        |                     |

Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |              |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------|--|
| Job: _____<br><br>Part No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/> | <b>DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/> </div> <div>           Eng. (Non-AW) <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Water Jet <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Quality <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        |              |  |
| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Sequence #: _____                                                                                                                 | QTY Affected : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        | MRB (QSI042) |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disposition            |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Completed By           |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Lead hand / Supervisor |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | QC / QA Coordinator    |              |  |
| <b>Root Cause</b><br><br><div style="display: flex; flex-direction: column;"> <div>Operator <input type="checkbox"/></div> <div>Manufacturing Process <input type="checkbox"/></div> <div>Equip/Tooling <input type="checkbox"/></div> <div>Handling/Preservation <input type="checkbox"/></div> <div>Material <input type="checkbox"/></div> <div>Product Improvement <input type="checkbox"/></div> <div>Process Improvement <input type="checkbox"/></div> <div>Human Factors <input type="checkbox"/></div> </div> |                                                                                                                                   | <b>FAULT CATEGORY</b><br><br><div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Pressure/Forced<br/> <input type="checkbox"/> Bending<br/> <input type="checkbox"/> Crushing<br/> <input type="checkbox"/> Cracks<br/> <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist<br/> <input type="checkbox"/> Marks/Chatter<br/> <input type="checkbox"/> Mislabeled         </div> <div style="width: 50%;"> <input type="checkbox"/> Contamination<br/> <input type="checkbox"/> Misaligned/off center<br/> <input type="checkbox"/> BOM/Route<br/> <input type="checkbox"/> Broken/Damage/Defect<br/> <input type="checkbox"/> Incomplete/Unclear Instructions<br/> <input type="checkbox"/> Drill Holes<br/> <input type="checkbox"/> Fit/Function         </div> <div style="width: 50%;"> <input type="checkbox"/> Power Loss/Surge<br/> <input type="checkbox"/> Folio/Program<br/> <input type="checkbox"/> Grain Direction<br/> <input type="checkbox"/> Weld<br/> <input type="checkbox"/> Wrong Stock Pulled<br/> <input type="checkbox"/> Out of Sequence<br/> <input type="checkbox"/> Off-set/Set-up         </div> <div style="width: 50%;"> <input type="checkbox"/> Positioned Wrong<br/> <input type="checkbox"/> Outside Tolerance<br/> <input type="checkbox"/> Drawing<br/> <input type="checkbox"/> Finish<br/> <input type="checkbox"/> Part Lost/Missing<br/> <input type="checkbox"/> Misread         </div> </div> |                        |              |  |
| Other/Details: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |              |  |



